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EXAMINER

TRUONG, CAM Y T

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 04/22/2004

16

Please find below and/or attached an Office communication concerning this application or proceeding.

8

## Office Action Summary

Application No.

09/998,682

Applicant(s)

FERRARI ET AL.

Examiner

Cam Y T Truong

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 34-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4-7.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. Claims 34-43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group II, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 9.

Claims 1-33 are pending in this Office Action.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 10, 11, 13-15, 17-18, 19-22, 27-30, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>).

As to claim 1, Chakrabarti teaches the claimed limitations:

"a plurality of attributes characterizing the materials" as frame attributes and attribute values may include classification descriptors for identifying the natural of each frame as materials (fig. 2, col. 14, line 37-67; col. 15, line 24);

"a plurality of values describing the materials, wherein each of the values has an association with at least one of the attributes and each association defines an attribute-value pair" as frame attribute values for identifying the natural of each frame and its relationships to the other frames. Particularly, frame attributes and attribute values may

include classification descriptors for identifying (fig. 2, col. 14, lines 37-67; col. 15, line 24);

“a search interface, the search interface including a free-text search tool for accepting free-text queries” as web page as a interface content of any frame selected with selection tool 146 (fig. 12, col. 26, lines 10-60).

Chakrabarti does not explicitly teach the claimed limitation

“a plurality of navigation states, wherein each navigation state corresponds to a particular expression of attribute-value pairs and to a particular subset of the materials;

the search interface being adapted to generate multi-term interpretations of free-text queries, a multi-term interpretation including a conjunction of attribute-value pairs that corresponds to a navigation state, the search interface providing a display of a set of search results for a query, the set of search results including multi-term interpretations”.

Yahoo teaches the claimed limitations:

“a plurality of navigation states, wherein each navigation state corresponds to a particular expression of attribute-value pairs and to a particular subset of the materials” as Home page is a plurality of categories for traversing and retrieving documents from the Internet. In Exhibit II, Humanities/Literature is a particular set of attribute-value pairs for Directory/Arts/Humanities/Literature as navigation states;

“the search interface being adapted to generate multi-term interpretations of free-text queries, a multi-term interpretation including a conjunction of attribute-value pairs that corresponds to a navigation state, the search interface providing a display of a

Art Unit: 2172

set of search results for a query, the set of search results including multi-term interpretations" as shown the browser is an interface is adapted to generate multi-term interpretations of queries and representing a result including term interpretations (Yahoo!, Exhibit II & VII).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Yahoo's teaching of using the technique of navigating and including a web browser as an interface to generating a result based on queries to Chakrabarti's system in order to traverse, retrieve cataloged information elements and to display information to a user.

As to claims 2 and 19, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, Yahoo! further teaches the claimed limitation "wherein the multi-term interpretations of the free-text query are minimal" as (Yahoo!, Exhibit II).

As to claims 3 and 20, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, Yahoo! further teaches the claimed limitation "wherein the search interface supports conjunctive query semantics" as Cultures and Groups (Yahoo!, Exhibit II).

As to claims 4 and 21, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, Yahoo! further teaches the claimed

Art Unit: 2172

limitation "wherein the search interface supports disjunctive query semantics" as authors, Awards or classics (Yahoo!, Exhibit II).

As to claims 5 and 22, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, Yahoo! further teaches the claimed limitation "wherein the search interface supports customized query semantics" as Authors and Award of categories are customized before displaying to a user (Yahoo!, Exhibit II).

As to claims 10 and 27, Charkrabarti teaches the claimed limitation "wherein the search interface supports the specification of delimited phrases" as (fig. 6).

As to claims 11 and 28, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claim 1, Yahoo! further teaches the claimed limitation "wherein the search interface supports constraining the set of search results to the subset of materials in the current navigation state where the free-text query is accepted" as (Yahoo!, Exhibit II&VII).

As to claim 13, Charkrabarti teaches the claimed limitation "including a full-text search tool for searching the set of materials" as (col. 14, lines 40-60).

As to claims 14 and 29, Charkrabarti teaches the claimed limitation “wherein the set of search results is organized by attribute” as (fig. 7).

As to claims 15 and 30, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, Yahoo! further teaches the claimed limitation “wherein the set of search results further includes navigation options to the navigation states corresponding to the set of search results” as (Yahoo!, Exhibit II & VII).

As to claims 17 and 32, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, Yahoo! further teaches the claimed limitation “further comprising a navigation interface, the navigation interface including a guided navigation tool providing a set of navigation options from the current navigation state to other navigation states, each navigation option providing a direct path to one of the other navigation states” as (Yahoo!, Exhibits I, V&VI).

As to claim 18, Charkrabarti teaches the claimed limitations:

“a plurality of attributes characterizing the materials” frame attributes and attribute values may include classification descriptors for identifying the natural of each frame as materials (col. 14, line 37-col. 15, line 24);

“a plurality of values describing the materials, wherein each of the values has an association with at least one of the attributes and each association defines an attribute-

value pair” as frame attribute values for identifying the natural of each frame and its relationships to the other frames. Particularly, frame attributes and attribute values may include classification descriptors for identifying (fig. 2, col. 14, lines 37-67; col. 15, line 24);

“the search interface including a free-text search tool for accepting free-text queries” as web page as a interface content of any frame selected with selection tool 146 (fig. 12, col. 26, lines 10-60).

Chakrabarti does not explicitly teach the claimed limitation “a plurality of navigation states, wherein each navigation state corresponds to a particular expression of attribute-value pairs and to a particular subset of the materials; and a search interface, the search interface being adapted to generate single-term and multi-term interpretations of free-text queries, a single-term interpretation including an attribute-value pair that corresponds to a navigation state, and a multi-term interpretation including a conjunction of attribute-value pairs that corresponds to a navigation state, the search interface providing a display of a set of search results for a query, the set of search results including single-term interpretations or multi-term interpretations or both”.

Yahoo! teaches the claimed limitations:

“a plurality of navigation states, wherein each navigation state corresponds to a particular expression of attribute-value pairs and to a particular subset of the materials” as Home page is a plurality of categories for traversing and retrieving documents from the Internet. As shown in Exhibit II, Humanities/Literature is a particular set of attribute-value pairs for Directory/Arts/Humanities/Literature as navigation states “and a search



Art Unit: 2172

interface, the search interface being adapted to generate single-term and multi-term interpretations of free-text queries, a single-term interpretation including an attribute-value pair that corresponds to a navigation state" as a conventional Web browser as a search interface to generate single term as booktalk and Book-a-minute classics as multi-term interpretations after user clicks on authors query corresponds to a navigation state (Exhibit II & VII);

"and a multi-term interpretation including a conjunction of attribute-value pairs that corresponds to a navigation state," as (Exhibit VII);

"the search interface providing a display of a set of search results for a query, the set of search results including single-term interpretations or multi-term interpretations or both" after a user clicks on any categories the system will displaying a list of search results including single-term interpretations and multi-term interpretations (Exhibit VII).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Yahoo's teaching of using the technique of navigating and including a web browser as an interface to generating a result based on queries to Chakrabarti's system in order to traverse, retrieve cataloged information elements and to display information to a user.

As to claim 33, Chakrabarti teaches the claimed limitations:

“a plurality of attributes characterizing the materials” as frame attributes and attribute values may include classification descriptors for identifying the natural of each frame as materials (col. 14, line 37-col. 15, line 24);

“plurality of values describing the materials, wherein each of the values has an association with at least one of the attributes and each association defines an attribute-value pair, and wherein some of the attribute-value pairs refine other of the attribute-value pairs” as frame attribute values for identifying the natural of each frame and its relationships to the other frames. Particularly, frame attributes and attribute values may include classification descriptors for identifying (fig. 2, col. 14, lines 37-67; col. 15, line 24);

“and a search interface, the interface including a free-text search tool for accepting free-text queries” as a web page as a interface content of any frame selected with selection tool 146 (fig. 12, col. 26, lines 10-60).

Chakrabarti does not explicitly teach the claimed limitations “a plurality of navigation states, wherein each navigation state corresponds to a particular expression of attribute-value pairs and to a particular subset of the materials; a navigation interface, the interface providing a plurality of transitions, each transition providing a direct path between two of the navigation states, wherein each transition represents a change from the expression of attribute-value pairs corresponding to an originating navigation state to the expression of attribute-value pairs corresponding to a destination navigation state, wherein a series of one or more transitions provides a path between any two navigation states, there being more than one path between at least a first of the

navigation states and a second of the navigation states; the interface being adapted to generate multi-term interpretations for free-text queries, a multi-term interpretation including a conjunction of attribute-value pairs that corresponds to a navigation state, the interface providing a set of search results including multi-term interpretations for a free-text query”.

Yahoo! teaches the claimed limitations:

“a plurality of navigation states, wherein each navigation state corresponds to a particular expression of attribute-value pairs and to a particular subset of the materials” as Home page is a plurality of categories for traversing and retrieving documents from the Internet. In Exhibit II, Humanities/Literature is a particular set of attribute-value pairs for Directory/Arts/Humanities/Literature as navigation states;

“a navigation interface, the interface providing a plurality of transitions, each transition providing a direct path between two of the navigation states, wherein each transition represents a change from the expression of attribute-value pairs corresponding to an originating navigation state to the expression of attribute-value pairs corresponding to a destination navigation state, wherein a series of one or more transitions provides a path between any two navigation states, there being more than one path between at least a first of the navigation states and a second of the navigation states” as for traversing, a conventional web browser is used such as Internet Explorer, which provides a path from a category to a subcategory, Home/Art -> Art/Humanities, and a path to sub subcategory Art/Humanities -> Humanities/Literature (Exhibits, I, V & VI);

“ the interface being adapted to generate multi-term interpretations for free-text queries, a multi-term interpretation including a conjunction of attribute-value pairs that corresponds to a navigation state, the interface providing a set of search results including multi-term interpretations for a free-text query” as after a user clicks on any categories the system will displaying a list of search results including single-term interpretations and multi-term interpretations including Cultures and Groups as a conjunction of attribute-value pairs (Exhibit II & VI).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Yahoo's teaching of In Exhibit II, Humanities/Literature, Directory/Arts/Humanities/Literature, using the technique of navigating and including a web browser as an interface to generating a result based on queries for traversing, and providing a path from a category to a subcategory, Home/Art -> Art/Humanities, and a path to sub subcategory Art/Humanities -> Humanities/Literature. after a user clicks on any categories the system will displaying a list of search results including single-term interpretations and multi-term interpretations including Cultures and Groups as a conjunction of attribute-value pairs to Chakrabarti's system in order to traverse, retrieve cataloged information elements and to display information to a user based on user's query.

4. Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo!

(<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Vora et al (or hereinafter "Vora") (USP 5819273).

As to claims 6 and 23, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, except the claimed limitation "wherein the search interface ignores stop words in the free-text query". Vora teaches the users search request was the phrase the law in Shakespeare. It will be appreciated that the words the and in are considered stop words and matches to these words which are too prevalent will not be displayed; in effect the system ignores stop words. Thus, the search has two criteria which are treated alternatively such that any document having any one of the two words law, Shakespeare will be a match, and the system will retrieve the document assuming a minimum ranking is satisfied and the maximum number of returns is not exceeded as described above and the date restriction is satisfied (fig. 4B).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Vora's teaching of ignoring stop words to Charkrabarti's system and Yahoo's system in order to save time for searching a record.

5. Claims 7 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Li (USP 6480843).

As to claims 7 and 24, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, except the claimed limitation "wherein the search interface treats syntactically related words as equivalent". Li teaches intersection of the document lists from the two rows forms the answer to the query. Clearly, this approach to IR supports only exact matches and will fail to retrieve relevant documents containing terms with similar meanings such as automobile dealer car showroom or automobile showroom Query expansion can be used in conjunction with a special utility to expand the query from car and dealer to (car or automobile and dealer or showroom) (fig. 2b).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Li's teaching of intersection of the document lists from the two rows forms the answer to the query. Clearly, this approach to IR supports only exact matches and will fail to retrieve relevant documents containing terms with similar meanings such as automobile dealer car showroom or automobile showroom Query expansion can be used in conjunction with a special utility to expand the query from car and dealer to (car or automobile and dealer or showroom) to Charkrabarti's system and Yahoo!'s system in order to reduce the chances of missing relevant documents.

6. Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Sanfilippo (USP 6260008).

As to claims 8 and 25, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, except the claimed limitation "wherein the search interface treats semantically related words as equivalent". Sanfilippo teaches two words are synonymically related or semantically similar if they have equivalent meaning. This means that if two words have equivalent meaning, they are related to each other. When these two words are related to each other and has same meaning. Definitely, they are treated as equivalent (col. 4, lines 20-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Sanfilippo's teaching of two words are synonymically related or semantically similar if they have equivalent meaning to Charkrabarti's system and Yahoo's system in order to specify a query for reducing the chances of missing relevant documents and to support query expansion, indices on words related by lexical semantics and syntactical co-occurrence need to be maintained .

7. Claims 9 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Schabes et al (or hereinafter "Schabes").

As to claims 9 and 26, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 9 and 26, except the claimed limitation "wherein the search interface performs automatic spelling corrections. Schabes teaches

Art Unit: 2172

automatically correcting misspelled words without significant user intervention (col. 2, lines 5-10).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Schabes's teaching of automatically correcting misspelled words without significant user intervention in order to eliminate user's input and to correct misspelled words quickly.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Feng (USP 6483523).

As to claim 12, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claim 1, except the claimed limitation "including a profile for each of the materials in the set of materials, the profile including descriptive information, the free-text search tool enabling searching the descriptive information in the profiles".

Feng teaches searching personal profile via a browser interface (figs. 3&4). It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Feng's teaching of searching personal profile via a browser interface to Charkrabarti's system and Yahoo's system in order to retrieve stored personal profiles to all users.

9. Claims 16 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable



Art Unit: 2172

over Chakrabarti et al (or hereinafter "Chakrabarti") (USP 6356899) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Jacobson et al (or hereinafter "Jacobson") (USP 6167397).

As to claims 16 and 31, Charkrabarti and Yahoo! teach all the claimed limitation subject matters as discussed in claims 16 and 31, except the claimed limitation "further including a first inverted index relating words to attribute-value pairs and a second inverted index relating attribute-value pairs to materials". Jacobson teaches the term-position inverted index is associated with document pairs (col. 4, lines 10-35). The inverted index II is associated with document pairs (col. 3, lines 30-40).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Jacobson's teaching of the term-position inverted index and the inverted index II are associated with document pairs to Charkrabarti's system and Yahoo!'s system in order to find split matches across structured and unstructured document and to rank paired documents in order again relying on the concept of the diversity of matches of documents in the cluster to the query keywords.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Kirk et al (USP 5768578).

Art Unit: 2172

**Contact Information**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam-Y Truong whose telephone number is (703-605-1169). The examiner can normally be reached on Mon-Fri from 8:00AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (703-305-9790). The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-3900).

Cam-Y Truong

4/8/04

  
SHAHID ALAM  
PRIMARY EXAMINER